

## CLAIMS:

1. A system for manipulation of a body of fluid (37), in particular a fluid droplet comprising
  - several control electrodes (33,34) to which an adjustable voltage is applied,
  - a counter electrode (31) having a fixed voltage and
  - 5 - being provided between the body of fluid and one of the control electrodes,
  - covering a part of the surface of the respective control electrodes, in particular the ratio of the width of the counter electrode to the width of the control electrodes being in the range from  $10^{-5}$  to 0.9.
- 10 2. A system for manipulation of a body of fluid as claimed in Claim 1, wherein an electrical insulation is provided between the counter electrode and the respective control electrodes.
3. A system for manipulation of a body of fluid as claimed in Claim 1, wherein
- 15 the electrical insulation has a hydrophobic surface facing the body of fluid, in particular a fluid contact coating being disposed on the electrical insulation.
4. A system for manipulation of a body of fluid as claimed in Claim 1, wherein the counter electrode has a hydrophobic surface facing the body of fluid, in particular a
- 20 hydrophobic coating being disposed on the counter electrode.
5. A system for manipulation of a body of fluid as claimed in Claim 1, wherein the hydrophobic coating over the counter electrode is much thinner than the electrical insulation, in particular the ratio of the thickness of the hydrophobic coating over the counter
- 25 electrode relative to the thickness of the electrical insulation is in the range of  $10^{-3}$  to 1, in particular less than  $10^{-1}$ .
6. A system for manipulation of a body of fluid as claimed in Claim 1, wherein the control electrodes are arranged in a spatial two-dimensional pattern.

7. A system for manipulation of a body of fluid as claimed in Claim 1, wherein the electrical resistance of the layer between the counter electrode and the droplet is smaller than the electrical resistance of the layer between the control electrodes and the droplet.

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8. A system for manipulation of a body of fluid as claimed in Claim 1, comprising an electrical control system to activate control electrodes in that an electrical voltage is applied to individual control electrodes and

10 de-activate control electrodes in that individual de-activated control electrodes are electrically connected to ground potential

9. A system for manipulation of a body of fluid as claimed in Claim 1, wherein the body of fluid is surrounded by one or more fluids that are immiscible with one another  
15 and with the fluid of the body of fluid.